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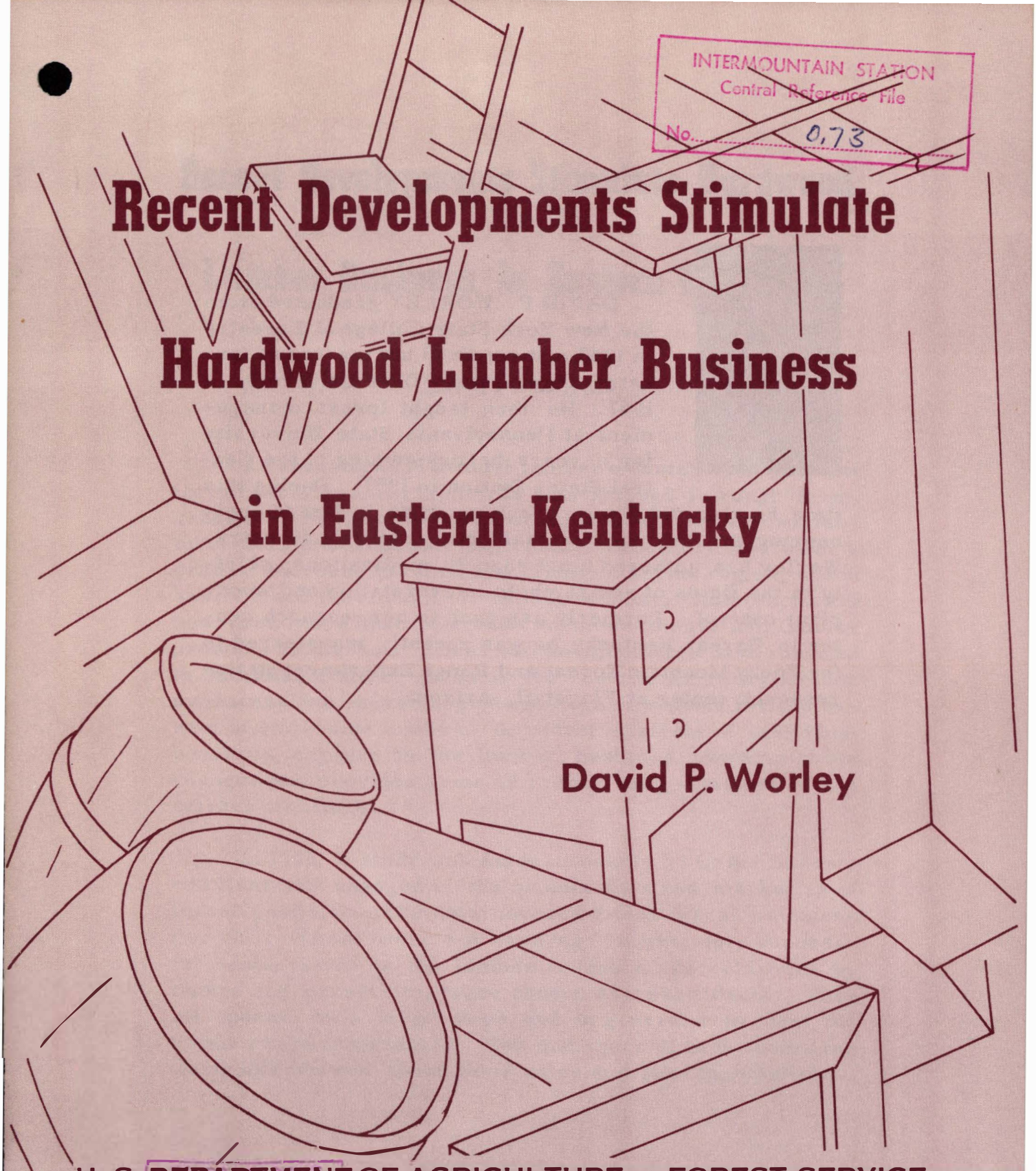

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DAVID P. WORLEY graduated from the New York State College of Forestry in 1943 and received his master of forestry degree from Duke University in 1947. He then taught forest management at Pennsylvania State University for 10 years before coming to the Central States Station in 1957. During this time he also did some consulting work in forest engineering and the use of aerial photographs in forestry. Worley has authored more than 20 publications, chiefly in the fields of aerial photo interpretation and woody plant control. Formerly assigned to our research center in Berea, Kentucky he was recently transferred to the Rocky Mountain Forest and Range Experiment Station research center at Flagstaff, Arizona.

Central States Forest Experiment Station, U. S. Dept. of Agriculture
Forest Service, 111 Old Federal Building, Columbus 15, Ohio
Richard D. Lane, Director
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Recent Developments Stimulate Hardwood Lumber Business in Eastern Kentucky

David P. Worley

As recently as 1946 most lumber manufactured in heavily forested eastern Kentucky was shipped in rough form, usually by rail, to the large urban markets for remanufacture into lumber products.[1/] Since then there has been a gradual increase in remanufacturing within the region, which has reduced the amount of "export" timber. And trucks are now used more than railroads to move lumber and lumber products to market. These two developments have resulted in increasing direct sales by the eastern Kentucky lumber producers and increasing the margin demanded for the resale of low-value lumber. A recent analysis of individual concerns engaged in the lumber business explains these changes and provides clues as to their long-range effect on market structure.

In 1958, a study was made of nearly 50 firms in eastern Kentucky engaged in the manufacture and marketing of forest products. The data covered either fiscal or calendar 1957. These were not "average" firms; only successful businessmen in the lumber industry, as evidenced by tenure and prosperity, were chosen as respondents. They all operate on a large scale and in general represent the better current operators. Top managers of these concerns were interviewed about their sales and purchase policies.

1/ Gustafson, R. O. "Opportunities for private forest enterprise in eastern Kentucky." Ky. Agr. Expt. Sta. Cir. 60, 24 pp., illus. 1946.

Rough lumber was a basic product for most of the concerns, but many remanufactured the lumber into other products such as flooring, pallets, molding, millwork, dimension stock, dressed and dried lumber, staves, crating parts, hogsheads, furniture parts, cabinets, custom truck beds, made-to-order structural materials, and many other items.

More Remanufacturing

Every remanufacturing plant visited was either a direct outgrowth of an earlier sawmill operation or was recently begun as part of an existing sawmill business. Some other sawmills were experimenting with such simple remanufacturing jobs as making disposable pallets or crating parts planning to manufacture these items as a part of their own business. These changes toward additional manufacture beyond the rough lumber stage began only recently but can be expected to continue.

Several things contribute to the increasing remanufacture and fabrication of lumber by eastern Kentucky producers. Low-grade lumber is difficult to sell on the open market and when sales are possible they are often made at a loss just to get rid of the lumber. Declining timber quality, prevalent in many areas, reduces the high-quality portion of lumber made from the timber, further aggravating the situation. Furthermore, there is a definite limit to the profit that can be made by a sawmill even under the best circumstances. Better managers seek to expand their profit potential by making use of the lumber themselves when they feel they can sell the products they can make.

More Trucking

The increased use of trucks to move lumber and lumber products to market from eastern Kentucky has spurred the remanufacturing development. Trucks were used by the firms visited for all local hauling (up to 50 miles) and for 85 percent of the volume shipped to the national market (farther

than 50 miles). Forty-eight percent of the companies that dealt on the national market used trucks altogether. None of the companies used rail transportation exclusively, and only 12 percent used railroad facilities more than trucks. Railroads were used exclusively to haul lumber and lumber products to distant markets, such as West Coast cities, and to a lesser extent to distant Lake States and New England cities.

The increased use of trucks began as a result of improvement in highways and in truck design which permitted heavier payloads. Markets that had previously been inaccessible to local mills by rail are now readily accessible by truck. Often mill operators did not know the final destination of carload lots of their lumber consigned and reconsigned through a wholesaler or broker. Now, when trucks are used, thr trucker and millman both usually know the final destination. So sawmill operators have an opportunity to try to capture the market themselves and, in time, to expand their market knowledge.

Trucking is likely to increase more because many industrial and manufacturing concerns have equipped their yards with power lifts that quickly load and unload trucks. In contrast, the railroads have not increased door sizes so as to accommodate such power loading equipment. Moreover, since trucks can reach many market areas, a mill or yard location at a railroad siding is not as important as formerly. Sawmills located on highways can compete favorably in many markets. These two business developments, then, are not independent but complement one another. The combined effect is to create changes in the lumber market.

Different Margin Requirements

A study was made of buying and selling prices for lumber as quoted by firms that bought and sold both lumber and products and firms that bought and sold lumber only. This study revealed that remanufacturing firms demand a much

wider margin for resale of low-value lumber than do firms that only manufacture rough lumber (fig. 1). Prices demanded by a sawmill dealing only in lumber depend largely upon lumber market conditions. But for concerns making secondary products as well, selling price for lumber must be high enough to induce them to part with lumber already on hand rather than use it in their own remanufacturing. Obviously, having the choice of selling lumber or manufacturing it into other products puts such a concern at an advantage. Although these alternatives evidently exist only for low-value lumber, additional processing, requiring the use of more valuable lumber, would develop alternative markets for it as well.

So far, in eastern Kentucky, this increased remanufacture is fairly localized and so has only limited effect on prices. But if remanufacturing becomes general throughout the region, local concerns will gain a competitive advantage because the lumber used in remanufacture will be lost to the national market, reducing the supply. This will mean that secondary manufacturers outside the area who normally buy lumber in eastern Kentucky will have to (1) pay more for their raw material, (2) buy it elsewhere, or (3) reduce their production.

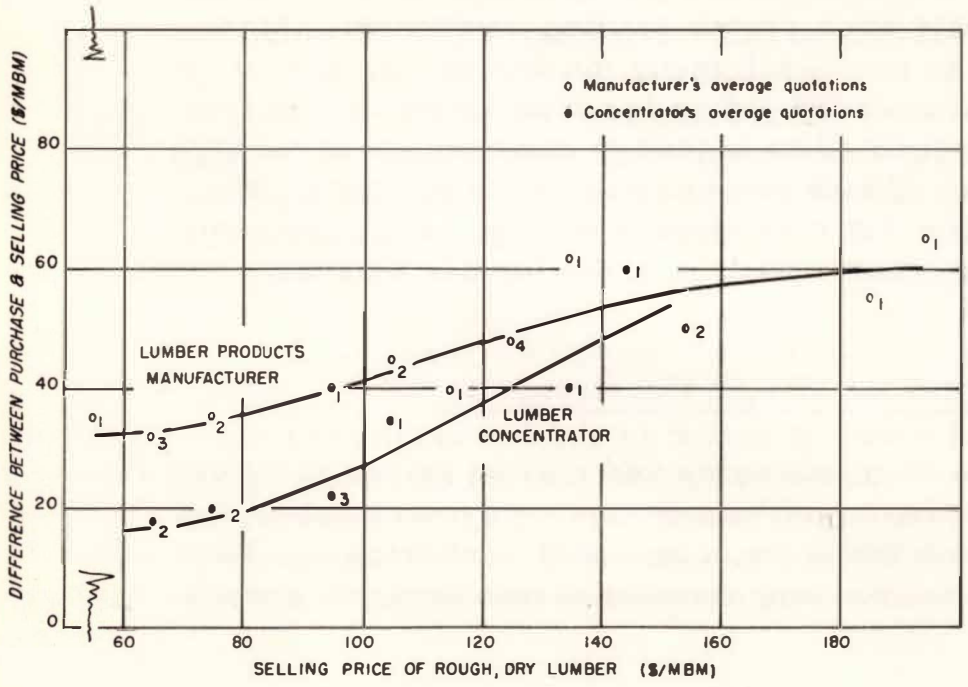

Figure 1.-- Margins accepted by a lumber products manufacturer and a lumber concentrator for selling lumber. (Figures show the number of quotations making up each average.)

Direct Sales

Multi-product concerns sell more of their output directly to manufacturing and industrial users than concerns selling only rough lumber (table 1). So if the trend toward increased manufacture in the area continues, the amount of lumber and products sold through third parties as wholesalers and brokers will decrease. And the two transactions that are necessary to establish prices when middlemen sell to customers and buy from mills will be replaced by a single transaction where pricing is based on bids or direct negotiations between mills and customers.

Table 1.--Percent of direct sales of lumber and lumber products by concerns studied

Products made and sold by a concern	Volume of all transactions	Direct sales
	Thousand board feet	Percent
Lumber	8,200	27
Lumber and 1 product	18,000	29
Lumber and 2 products	41,400	42
Lumber and 3 or more products	11,800	53

Conclusion

These developments tend to benefit the economy of eastern Kentucky. The additional manufacturing adds to the product value, capital investment, labor and profits in the local area. Direct sales can also increase product value to the manufacturer and increase his market outlets.

The Central States Forest Experiment Station is headquartered at Columbus, Ohio and maintains major field offices at:

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